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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,704	01/17/2001	Hiroyuki Nakano	501.39474X00	5851

20457 7590 10/17/2003

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EXAMINER	
SEVER, ANDREW T	
ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/760,704	NAKANO ET AL.	
	Examiner	Art Unit	
	Andrew T Sever	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *24 and 25* is/are allowed.

6)☒ Claim(s) *1,2,6-12 and 17-23* is/are rejected.

7)☒ Claim(s) *3-5 and 13-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) ☐ Other: .

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Applicant has amended the application to be a continuation-in-part (CIP) of U.S. Patent Application Serial No. 09/260,074, without presenting a new declaration with the proper domestic priority statement on the Declaration. Applicant is **required** to submit a new Declaration with the proper domestic priority statement reflecting the application's status as a continuation-in-part of US Patent Application Serial No. 09/260,074, now Pat. No. 6,355,570.

Drawings

2. The drawings were received on 8/18/2003. These drawings are approved.

Specification

3. The abstract of the disclosure is objected to because it comprises of a single sentence and is too long. Correction is required. See MPEP § 608.01(b).

The following abstract is based on applicant's abstract and would be acceptable:

The present invention is a method of processing a semiconductor device. It comprises the step of generating plasma in a processing chamber to form or process a thin film on a semiconductor device. The step of scanning, through a window, intensity modulated laser beam, which is modulated at a desired frequency inside the processing chamber where the semiconductor device is being processed. The step of receiving by a sensor through the window a back scattered light being scattered from fine particles suspended in the processing chamber by the scanning laser and detecting the desired frequency component from a signal outputted from the sensor. From the detected frequency component information relating to quantity, size, and distribution of the fine particles illuminated by the laser beam inside the processing chamber is obtained. This information is then outputted.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2, 6, 7-12, 17-23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 19-22 of U.S. Patent No. 6,576,559. Although the conflicting claims are not identical, they are not patentably distinct from each other because both teach a semiconductor manufacturing method wherein during the processing step contaminants (fine particles) are detected by back scattered light. The claims differ in that the '6559 patent in independent claim 19 does not explicitly claim the steps of coating a resist on a surface of a substrate, exposing the resist coated on the substrate with a desired light pattern, developing the exposed resist and other well known steps, these however are the well known steps in manufacturing a semiconductor substrate/device. The '6559 patent further does not specifically claim that a laser beam is the light used, only a general light source is claimed, however a laser is clearly specified and one with ordinary skill in the art would assume that the intensity-modulated light is a laser beam. The '6559 patent further does not claim that the back scatter light is scattered at different portions along an optical axis of the laser beam, however this is obvious since the fine particles in general are not going to be located in only one location, since these are containments caused by impurities, the fine particle could be located and detected anywhere along an optical axis of the laser beam (particles can be located elsewhere, however they won't be detected if they are not located in the optical axis of the laser beam as is obvious to those of ordinary skill in the art at the time of the invention.)

6. Claims 7-12, 17-23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,355,570. Although

the conflicting claims are not identical, they are not patentably distinct from each other because both teach a semiconductor manufacturing method wherein during the processing step contaminants (fine particles) are detected by back scattered light. The claims differ in that the '5570 patent does not explicitly claim all of the claimed steps of processing/manufacturing a semiconductor substrate, such as exposing the resist coated on the substrate with a desired light pattern, developing the exposed resist and other well known steps; these however are the well known steps in manufacturing a semiconductor substrate/device. The '5570 patent further does not specifically claim that a laser beam is the light used, only a general light source is claimed, however a laser is clearly specified and one with ordinary skill in the art would assume that the intensity-modulated light is a laser beam. The '5570 patent further does not claim that the back scatter light is scattered at different portions along an optical axis of the laser beam, however this is obvious since the fine particles in general are not going to be located in only one location, since these are containments caused by impurities, the fine particle could be located and detected anywhere along an optical axis of the laser beam (particles can be located elsewhere, however they won't be detected if they are not located in the optical axis of the laser beam as is obvious to those of ordinary skill in the art at the time of the invention.)

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,613,588 to Nakata et al. also has common inventors and is a continuation in part of 6,355,570 which the present application has also been made a continuation in part of.

Allowable Subject Matter

8. Claims 24 and 25 are allowed.

9. Claims 3-5, and 13-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: Claims 24 and 25 are allowed and claims 4-5 and 13-16 are indicated as being allowable if re-written in independent form since they claim obtaining two dimensional distribution information of fine particles. As explained by the applicant this was not taught and this is not claimed in the prior art of record or in related co-owned patents.

With regards to claim 3 it is allowable for the reason that Nakata in its various forms does not teach the window having a Brewster's angle relative to the P-polarized laser beam.

Response to Arguments

11. Applicant's arguments with respect to claim1-25 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 703-305-4036. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams can be reached on 703-308-2847. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AS